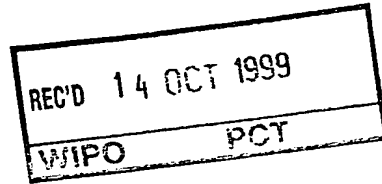


A.D.
PCT/NZ99/00121 *#sl*



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CERTIFICATE

This certificate is issued in support of an application for Patent registration in a country outside New Zealand pursuant to the Patents Act 1953 and the Regulations thereunder.

I hereby certify that the annexed is a true copy of the Provisional Specification as filed on 03 July 1998 with an application for Letters Patent number 330859 made by Wakelin, Noel Roger.

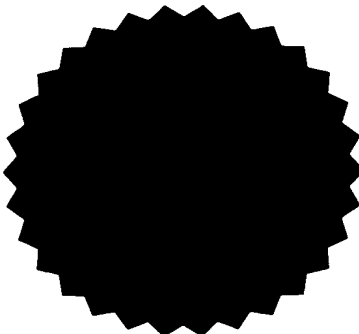
I further certify that this Provisional Specification has since been post-dated to 28 July 1998 under Section 12(3) of the Patents Act 1953.

Dated 27 September 1999.

PRIORITY DOCUMENT

SUBMITTED OR TRANSMITTED IN
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Commissioner of Patents



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330859

PATENTS FORM NO. 4

Appln Fee: \$80.00

James & Wells Ref: 30268/14 JW

POST-DATED UNDER SECT 12(4)

to 28 July 1998

PATENTS ACT 1953
PROVISIONAL SPECIFICATION

IMPROVED HANDLE

I/WE NOEL ROGER WAKELIN, a New Zealand citizen of 31 Meander
Drive, Welcome Bay, Tauranga, New Zealand
do hereby declare this invention to be described in the following statement:

IMPROVED HANDLE

TECHNICAL FIELD

The present invention relates to a handle for use with trigger operated hand tools.

5 BACKGROUND ART

In particular, the present invention relates to a handle for use with nail guns. However, this should not be seen as limiting as it is envisaged that the handle of the present invention may be applied to other trigger operated hand tools.

- 10 For ease of reference only, the trigger operated hand tool will now simply be referred to as a nail gun.

Currently, due to a persons arm only having a limited reach, use of a nail gun to secure an object to another object often requires an operator to bend down or alternatively use a ladder or such like to effect securement.

- 15 Examples of such activities may include the use of a nail gun to secure a floor to a joist, or a sheet of GIBBOARD™ to purlins. As should be appreciated, the need to bend down or use ladders and such like, can unnecessarily increase the time taken to use a nail gun to secure an object. In addition, where a person is required to bend down this can often lead to
20 operators of nail guns suffering from back strain.

It is an object of the present invention to address the foregoing problems or at least to provide the public with a useful choice.

Further aspects and advantages of the present invention will become

apparent from the ensuing description which is given by way of example only.

DISCLOSURE OF INVENTION

According to one aspect of the present invention there is provided a handle
5 for attaching to a trigger operated hand tool characterised in that the handle includes:

- a shaft adapted so as to be attachable at one end thereof to the hand tool,
- a hand grip located at the other end of the shaft,
- 10 - a trigger activator positioned near the hand grip capable of being operatively connected to the trigger associated with the hand tool.

It is envisaged that the trigger operated hand tool may be any one of a variety of hand tools without departing from the scope of the present invention.

15 In general, the trigger operated hand tool may be motorised.

In preferred embodiments the trigger operated hand tool may be a nail gun.

For ease of reference only, the trigger operated hand tool will now simply be referred to as a nail gun.

20 It is envisaged that the length of the shaft may vary.

In general, the length of the shaft will be dependent on the reach of the average user. Typically, the length of the shaft may be approximately 50cm – 70cm. However, this should not be seen as necessarily limiting the

scope of the present invention.

It is envisaged that there may be a variety of different ways of adapting one end of the shaft so it can be attachable to a nail gun.

In preferred embodiments, the shaft may be adapted to include a clamp at
5 one end thereof which is capable of holding a nail gun.

The hand grip may come in a variety of different forms without departing from the scope of the present invention.

In general, the hand grip may be angled with respect to the longitudinal axis of the shaft to allow for it to be easily gripped by a persons hand.

10 It is envisaged the trigger activator may come in a variety of different forms without departing from the scope of the present invention.

In some embodiments, the trigger activator may be in the form of a button or switch.

In preferred embodiments the trigger activator may be in the form of a
15 lever.

It is envisaged that the trigger activator may be operatively connected to the trigger of the nail gun in a variety of different ways without departing from the scope of the present invention.

In embodiments, where the trigger activator is in the form of a button or
20 switch, the trigger activator may be electrically connected to the trigger mechanism of the hand tool, or, an electric device so as to be capable of operating the trigger associated with the hand tool.

In preferred embodiments, where the trigger activator is a lever,

operatively connected to the trigger associated with the nail gun via a cable. Pivoting of the lever causes the effective length of the cable to increase or decrease thereby allowing it to depress or release the trigger associated with the nail gun.

- 5 In preferred embodiments, the cable may have its other attached to a second lever which is pivoted via the effective shortening or lengthening of the cable, as described above, to depress or release the trigger.

Thus the present invention may have a number of advantages over the prior art.

- 10 One advantage of the present invention, is that it allows an operator to effectively increase the reach of their arm. As a result bending down or using ladders and such like may not be required when using a nail gun to secure an object to another object.

- 15 A further related advantage of the present invention is the fact that it may effectively decrease the time taken to use a nail gun to secure an object to another object - for example, a floor board to a joist.

A further advantage of the present invention is that it is lightweight and can be cheaply manufactured.

- 20 Another advantage of the present invention is that it may be fitted to any nail gun.

BRIEF DESCRIPTION OF DRAWINGS

Further aspects of the present invention will become apparent from the following description which is given by way of example only and with reference to the accompanying drawings in which:

Figure 1 is a side view of one preferred embodiment of the present invention, and

Figure 2 is a partial view of the clamp showing the opposite side thereof to that shown in Figure 1, and

5 Figure 3 is a diagrammatic top plan view illustrating how the trigger activator is operatively connected to the trigger of a nail gun.

BEST MODES FOR CARRYING OUT THE INVENTION

With respect to the drawings there is provided a handle 1 which is attached to a PASLODETM cylindereed powered nail gun 2. The handle 1
10 includes a shaft 3 which has a hand grip 4 located at one end thereof. Positioned substantially adjacent to the hand grip 4 is an activator lever 5.

The other end of the shaft 3 has a clamp 6 which attaches the handle 1 to the nail gun 2.

The nail gun 2 may be secured to or removed from the clamp 6 simply by
15 undoing nuts 20 and 21 from the end of bolts 22 and 23 as is shown in Figure 2. The bolts can then be removed from cross members 11 and 12 of the clamp 6.

The activator lever 5 is associated with a bowden cable 8 which has its other terminal end attached to a trigger lever 50 shown in Figure 3. The
20 trigger lever 50 is attached to the clamp 6 by means of two struts of which only the top strut 51 is shown. The trigger lever 50 is able to pivot about fulcrum 52 and the length of the bowden cable 8 is effectively increased or decreased via activation lever 5.

Shortening of the bowden cable in the direction indicated by arrow 60

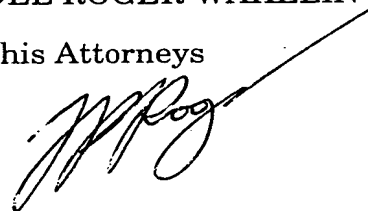
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causes the trigger lever 50 to depress trigger 10 of the nail gun 2. Once a nail has been fired return spring 54 returns the trigger lever 50 to the position shown so as to release the trigger 10.

Aspects of the present invention have been described by way of example
5 only and it should be appreciated that modifications and additions may be made thereto without departing from the scope thereof.

NOEL ROGER WAKELIN

by his Attorneys



JAMES & WELLS

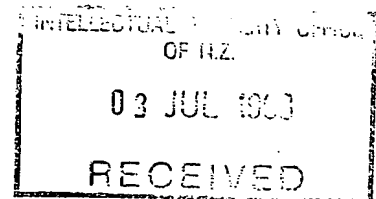


FIGURE 1

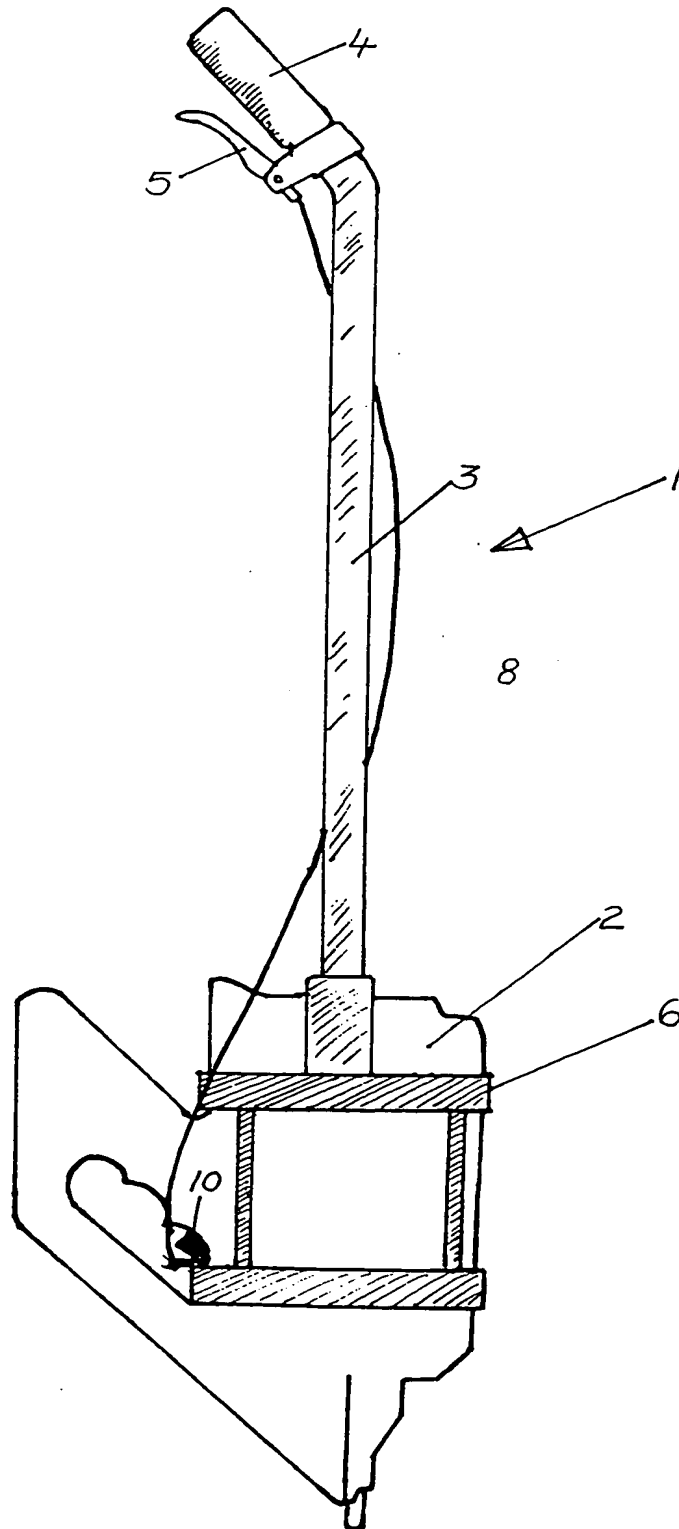


FIGURE 2

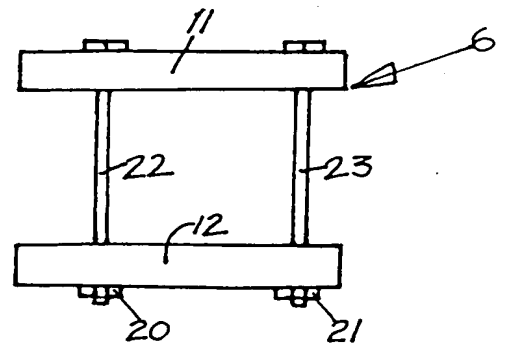


FIGURE 3

